NAKSHATRA ASTRONOMY CLUB

Modern Education Society's College of Engineering

AY 2024-25

Workshop Report: Astronova - In Search of Unknown

Event Details:

- **Organized by:** Nakshatra Astronomy Club
- **Name of the workshop:** Astronova: In search of the Unknown
- **Date:** 15th February 2025
- **Venue:** Seminar Hall 514
- **Time:** 10:00 AM – 5:00 PM

Introduction

The Nakshatra Astronomy Club successfully organized a one-day workshop, *Astronova: In Search of Unknown*, on 15th February 2025. The event was held in Seminar Hall 514 and was attended by enthusiastic students, faculty members, and astronomy enthusiasts. The workshop aimed to provide insights into various aspects of astronomy, including historical developments, advanced tools, exoplanetary research, and the search for extraterrestrial life.

The primary goal of the workshop was to foster curiosity and deepen the understanding of astronomy among attendees. It provided a platform for students to engage with experts and explore cutting-edge astronomical research. The event also served as an opportunity for participants to discuss fundamental questions about the universe, such as the formation of galaxies, the existence of exoplanets, and the possibility of extraterrestrial life. Through interactive lectures, discussions, and a quiz session, the workshop helped attendees gain a broader perspective on space science and its implications for humanity. The enthusiasm and participation from attendees showcased the growing interest in astronomy and the importance of scientific inquiry in understanding our place in the cosmos.

development of scientific methods in astronomy and their significance in contemporary research.

- **Lecture 2:** Aditi Shinde introduced the essential tools of astronomy, such as ground-based and space telescopes, radio astronomy, and spectroscopy. She detailed how these tools are used to study stellar composition, temperature, and motion. The lecture explained how spectroscopy helps in analyzing distant stars, identifying elements, and tracking stellar evolution. She also discussed various observational techniques, including adaptive optics and interferometry, and their applications in discovering exoplanets and deep-space objects.
- **Lecture 3:** Aditya Kale provided an overview of our solar system, discussing planetary formation, asteroid belts, and the role of the Kuiper Belt and Oort Cloud. He elaborated on exoplanet detection methods such as the transit method, radial velocity technique, and direct imaging. The session included discussions on the classification of exoplanets, their atmospheres, and potential habitability. He also covered the galactic structure, explaining the Milky Way's formation, its components, and how galaxies interact over cosmic time.
- **Lecture 4:** Pranav Sarmukkadam explored the search for extraterrestrial life, discussing the conditions necessary for life and the factors that make a planet habitable. He covered ongoing missions like the search for microbial life on Mars, studies of ocean worlds such as Europa and Enceladus, and exoplanet habitability research. The lecture included discussions on the Drake Equation, the Fermi Paradox, and various SETI (Search for Extraterrestrial Intelligence) initiatives. He concluded with the ethical and philosophical implications of discovering intelligent life beyond Earth.

Highlights of the Workshop

- **Engaging Lectures:** The speakers provided in-depth knowledge about various astronomical topics, from the historical evolution of astronomy to the latest discoveries in exoplanets and extraterrestrial life.
- **Interactive Sessions:** Attendees had the opportunity to ask questions, discuss theories, and engage in intellectual discussions with the experts.
- **Quiz Session:** The workshop concluded with a quiz, allowing participants to test their understanding of the concepts covered during the sessions.

Conclusion

The workshop, *Astronova: In Search of Unknown*, was a grand success, leaving participants enriched with knowledge and a deeper appreciation for the universe. The lectures provided valuable insights into astronomy's fundamental aspects, inspiring attendees to further explore the subject. The interactive discussions and quiz session made the learning process engaging and enjoyable. Many participants expressed their enthusiasm for future events and a keen interest in continuing their journey in astronomical studies.

The Nakshatra Astronomy Club extends its heartfelt gratitude to the speakers for sharing their expertise, the organizers for their dedication, and the participants for their curiosity and enthusiasm. The overwhelming response and positive feedback indicate a growing passion for space science, motivating the club to organize more such workshops in the future. We look forward to hosting similar events that spark scientific curiosity and deepen our collective understanding of the universe. Astronomy continues to be a field of endless discovery, and events like *Astronova* play a crucial role in inspiring the next generation of explorers and researchers.

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Faculty coordinator NAC

Nakshatra Astronomy Club

Workshop:- Astronova: In search of the Unknown

Core committee, participants and our faculty coordinator

Speaker: Prachi nailkar, SE Computer
Lecture 1: The Scientific History of Astronomy and the Night Sky

Speaker: Aditi Shinde, SE EnTC
Lecture 2: Tools of Astronomy, Spectroscopy, and Stellar Evolution

Speaker: Aditya Kale, SE Mechanical
Lecture 3: Our Solar System, Exoplanets, and Galactic Structure

Nakshatra Astronomy Club

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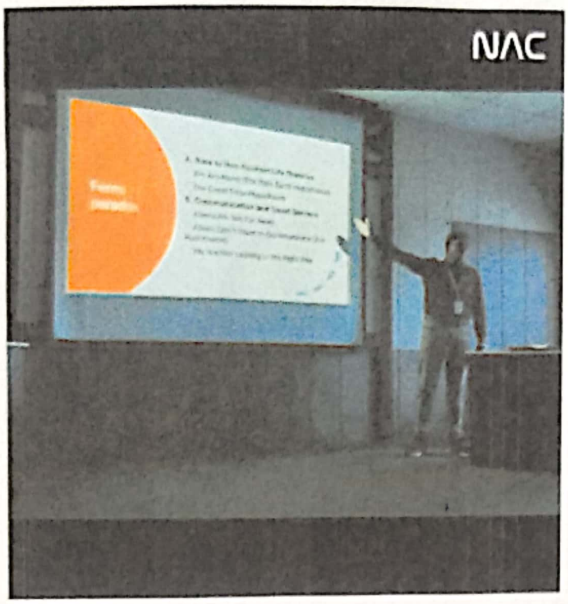
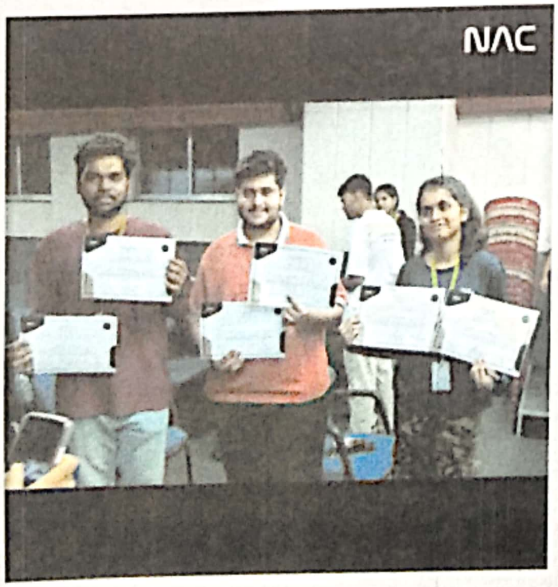


Speaker: Pranav Sarmukkadam, SE Computer

Lecture 4: Life in the Universe and the Search for the Unknowne

Falicitating our faculty coordinator



Quiz Winners

Post workshop unofficial discussion